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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/732,259

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Farid Khafizov

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05/05/2004

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EXAMINER

HA, YVONNE QUY M

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 05/05/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,259

Applicant(s)

KHAFIZOV ET AL.

Examiner

Yvonne Q. Ha

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 8-10, 13-15, 17, 18, 20-22, 25-27, 29, 30, 32-34, 37-39, 41, 42, 44-46 is/are rejected.
- 7) ☒ Claim(s) 4, 7, 11, 12, 16, 19, 23, 24, 28, 31, 35, 36, 40, 43, 47 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date #2: 12/7/00
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5, 6, 13-15, 17, 18, 25-27, 29, 30, 37-39, 41, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Bedekar et al. (US Patent 6,603,753).

Referring to claims 1, 13, 25, and 37, Bedekar discloses a method of scheduling the transmission of data (figure 3) from an access point (i.e. transceiver of base station) to a plurality of access terminals (i.e. users) serviced by the access point (i.e. transceiver of base station) using the corresponding forward communication links between the access point and the access terminals (i.e. users) in a CDMA/HDR communications network (col. 4, lines 1-7), comprising: the access point calculating a scheduling parameter for each of the forward communication links and access terminals (col. 8, lines 1-10) as a function of a plurality of operating parameters (col. 8, lines 8-16, two parameters for given user, rate and throughput); the access point scheduling data for transmission to the access terminal having the largest scheduling parameter (col. 8, lines 22-43, scheduling of time intervals of all base stations).

Referring to claims 2, 14, 26, 38, Bedekar discloses all aspects of the claimed invention and further teaches the access point calculates the scheduling parameter for each of the forward

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communication links and access terminals as a function of a frame utilization for the corresponding forward communication link and access terminal (col. 13, lines 1-11, 24-39).

Referring to claims 3, 6, 15, 18, 27, 30, 39, 42, Bedekar discloses all aspects of the claimed invention and further teaches the frame utilization is calculated as a function of a size of a data payload available to send to the corresponding access terminal and a size of the physical layer packet for the corresponding access terminal (col. 13, lines 1-11, 24-39).

Referring to claims 5, 17, 29, 41, Bedekar discloses all aspects of the claimed invention and further teaches the access point calculates the scheduling parameter for each of the forward communication links and access terminals as a function of the frame utilization (col. 13, lines 1-11, 24-39), a maximum data transmission rate, and an average data transmission rate for the corresponding forward communication link and access terminal (col. 4, lines 26-47).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-10, 20-22, 32-34, 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bedekar (US Patent 6,603,753) in view of Chen et al. (US Patent 5,923,650).

Referring to claims 8, 20, 32, 44, Bedekar discloses all aspects of the claimed invention and further teaches, a maximum data transmission rate, and an average data transmission rate for the corresponding forward communication link and access terminal (col. 4, lines 26-47). Bedekar failed to teach the access point calculates the scheduling parameter for each of the forward

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communication links and access terminals as a function of one or more weighting factors.

However, Chen discloses a method for reverse link rate scheduling where weighting function can be based on the priority of the scheduled users and some other factors (col. 13, lines 1-15). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Bedekar downlink transmission intercell scheduling in CDMA data networks and Chen reverse link rate scheduling. The scheduling method is to improve the utilization of the uplink (i.e. reverse)/downlink (i.e. forward) and decreases the transmission delay in data communication. As both prior arts teach the concepts the transmission scheduling to reduce data delay, especially IP network. The teaching of Chen weighting factor and priority could also apply to the forward link as well as reverse link.

Referring to claims 9, 21, 33, 45, Bedekar discloses all aspects of the claimed invention and further teaches frame utilization for the corresponding forward communication link and access terminal (col. 13, lines 1-11, 24-39). However, Bedekar failed to teach the weighting factors are selected from the group, a priority of the data to be transmitted to the corresponding access terminal. However, Chen discloses a method for reverse link rate scheduling where weighting function can be based on the priority of the scheduled users and some other factors (col. 13, lines 1-15). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Bedekar downlink transmission intercell scheduling in CDMA data networks and Chen reverse link rate scheduling. The scheduling method is to improve the utilization of the uplink (i.e. reverse)/downlink (i.e. forward) and decreases the transmission delay in data communication. As both prior arts teach the concepts

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the transmission scheduling to reduce data delay, especially IP network. The teaching of Chen weighting factor and priority could also apply to the forward link as well as reverse link.

Referring to claims 10, 22, 34, 46, Bedekar discloses all aspects of the claimed invention but failed to teach the access point calculates the scheduling parameter for each of the forward communication links and access terminals as a function of a priority of the data to be sent to the corresponding access terminal. However, Chen discloses a method for reverse link rate scheduling where weighting function can be based on the priority of the scheduled users and some other factors; the priority list determines the allocation of the link to the scheduled users (col. 13, lines 1-15). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Bedekar downlink transmission intercell scheduling in CDMA data networks and Chen reverse link rate scheduling. The scheduling method is to improve the utilization of the uplink (i.e. reverse)/downlink (i.e. forward) and decreases the transmission delay in data communication. As both prior arts teach the concepts the transmission scheduling to reduce data delay, especially IP network. The teaching of Chen weighting factor and priority could also apply to the forward link as well as reverse link.

Allowable Subject Matter

5. Claims 4, 7, 11, 12, 16, 19, 23, 24, 28, 31, 35, 36, 40, 43, 47, and 48 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- Tiedemann, Jr. et al. (US Patent 5,914,950) discloses method and apparatus for reverse link rate scheduling
- Walton et al. (US Patent 6,493,331) discloses controlling transmission of a communications systems
- Honkasalo et al. (US Patent 6,584,089) discloses a method for scheduling packet data transmission

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvonne Q. Ha whose telephone number is 703-305-8392. The examiner can normally be reached on Monday-Friday 7a.m.-4p.m. Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ajit Patel can be reached on 703-308-5347. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YQH


Ajit Patel
Primary Examiner